CIO Update

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Building IT Infrastructure

Message from the CIO

A Strategy For the Future

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The Office of the CIO is implementing a vision for the future to ensure that Information Technology (IT) dollars are wisely spent and that operating efficiencies are continually improved and enhanced. In partnership with four HQ Program Offices, we are building Common IT Infrastructure Services (CITIS) to provide long- haul, local, and work-area networking; enterprise IT management functions; desktop computers; and common desktop services.

We have commenced a Pilot effort that will last 12 months. The Pilot will be used to demonstrate cost efficiencies, refine business practices and contracting strategies, and evolve technical standards. Post-Pilot, we will work collaboratively to expand the Infrastructure to DOE's Federal Sites. This approach will allow us to improve Departmentwide interoperability, measure and reduce IT service costs, and increase the use of IT to improve mission effectiveness. We aim to establish DOE as the Federal leader in leveraging IT as it is applied to enterprise Infrastructure.

The IT Infrastructure should function much like the electric utility— always available, consistent from outlet to outlet, and reasonably priced. The IT Infrastructure will be centrally managed, standards-based, and backed by policy. It will be robust, reliable, and able to support rapid evolution of business solutions. As a first step toward centralization, our Pilot effort is migrating to a single logical long haul network. We have established DOENET, replacing DOEBN as the backbone for our Federal activities, and we are now integrating DOENET and ESNET where the integration can achieve greater efficiency and cost-effectiveness. Measuring the total cost of ownership is another component of this initiative.

IT investment must have a business justification, and it must be consistent with the corporate information architecture. We are achieving this by establishing the DOE Corporate Information Architecture and aligning our Corporate Information Management Program (CMIP) and other IT investments with the architectural framework. Our approach is "thin" policy backed by guidance supported by Departmentwide collaboration on IT solutions.

Proactive management and protection of information and information technology resources are the themes of our cyber security initiative. We have trained 1,400 system administrators and managers, and we are entering phase 2 of our training effort. We are establishing cyber security policies and implementing a consistent cyber security architecture tailored to DOE Site needs.

The Department's knowledge assets can be enhanced and leveraged via electronic information modes. One focus area will be the integration of records management into business processes. To ensure that our IT environment is sound and sustainable, we will recruit and retain a top quality Federal IT workforce. We have begun assessing staff training needs, and we are considering implementing a DOE IT intern program to recruit college graduates.

Building the IT Infrastructure will bring a myriad of cultural change as we embrace new practices, form partnerships, and emerge as a Departmentwide collaborative team. Ultimately, with enough perseverance, the paradigm will shift.

In This Issue

What Is Knowledge Management?

> ***Where is the wisdom we have lost in knowledge?***
> ***Where is the knowledge we have lost in information?***
> *–T.S. Elliot–*

Information is knowledge only if it is meaningful, relevant, and accurate. According to the Gartner Group, "knowledge management harvests and shares intellectual assets for breakthrough results in enterprise productivity and innovation. It is a process that involves creating, harvesting, assimilating, and leveraging knowledge to produce a smarter and more competitive organization."

Knowledge management addresses problems associated with today's proliferation of information resources, such as the Internet and corporate Intranets. Large organizations may not know where their information assets reside. People waste time trying to retrieve information stored in pockets across the enterprise, possibly duplicated, and potentially inaccurate.

Corporate knowledge management initiatives identify, select, and organize an organization's knowledge assets. Knowledge is presented in a way that makes it easily understood and used. Approaches vary and, among others, may include Internet-based "portals" that consolidate and cross-reference topical information, or executive information systems that provide query and drill-down capabilities. Knowledge extends beyond the data stored in corporate information systems and includes the how-to and who-knows-what knowledge that employees bring to their jobs.

Knowledge management is not a panacea. It has a high price tag, and the technology to fully implement it is only beginning to emerge. Effective knowledge management requires an enterprise-level commitment and an infrastructure and processes that support all phases of managing knowledge, from creating it to leveraging it. Technology is only one part of effective knowledge management. Enterprises embarking on knowledge management ventures must be prepared to examine and change their business processes. The OCIO Special Projects Team is planning a knowledge management portal focused on CIO-specific work processes and is working in partnership with the Records Management Division to gather information on Departmentwide knowledge management initiatives. For more information, contact Theda Bagdy (telephone: 202-586-5988 or email Theda.Bagdy@hq.doe.gov).

EIS Brings Business Info to Managers' Desktops

The DOE Corporate Executive Information System (EIS) allows Departmental managers to immediately access key business information from their desktop PCs. EIS brings together data from various Departmental source systems, providing summary and detailed information to support decision making and knowledge management. Subject areas include Congressional budget estimates, construction costs, functional support costs, travel obligations (HQ), status of obligational authority, uncosted balances, EEO and diversity statistics, and workforce demographics.

Project Manager Miriam Kurtyka-- Our vision is to transition DOE from a data-oriented organization to a knowledge-based organization.

The EIS project began in 1997 when the Office of the Chief Financial Officer undertook an aggressive effort to identify, develop, and implement a Corporate Executive Information System for Departmentwide use. The effort successfully met Secretarial performance measures in 1997 and 1998. In 1999, the system became operational with large-scale development activities planned for expansion. Project Manager Miriam Kurtyka worked with stakeholder groups across the DOE Complex to implement the Pilot effort in 1997, and she has continued efforts to expand use of the system, identify new business requirements, form an EIS Users Group, and continually enhance and modify the EIS. According to Miriam Kurtyka, "The vision for the EIS is that the system will be the 'portal' to corporate business information required by Departmental managers."

The system is complex, receiving data electronically from numerous Departmental sources, including: DOE Information Repository [which houses data from Corporate Human Resource Information System (CHRIS), Payroll/Personnel System and Labor Distribution System], Financial Data Warehouse, Functional Cost System, Departmental Integrated

Standardized Core Accounting System, and the Program Activity and Location System. The source systems providing data to the EIS will be expanded as new business information topics are incorporated. Currently, the EIS is undergoing a complete redesign of its financial information sections, online navigational help is being developed, and a prototype capability to provide information from CHRIS is in the works.

Requirements gathering for the EIS is an ongoing process. As managers use the system and realize its detailed capabilities for information summarization and drill-down, they have begun to share their corporate knowledge, contributing to system enhancements and modifications. In this way, the EIS not only draws on multiple corporate information resources, but also incorporates the business knowledge of DOE managers and executives. For more information, contact Miriam Kurtyka (telephone: 301-903-2970 or e-mail: miriam.kurtyka@hq.doe.gov).

Focus on Cyber Security

General Eugene Habinger (USAF, Retired), Director of DOE's Office of Security and Emergency Operations, has moved proactively to mitigate threats to the Department's Internet information. He has funded and directed the DOE Information Security Resource Center (ISRC), located at the Pacific Northwest National Laboratory, to develop and publish a *DOE Operations Security (OPSEC) Internet Presence Assessment Guide.*

The DOE ISRC brings together a core of expertise devoted to developing innovative approaches and techniques to meet the Department's Information Security Program's needs. The ISRC not only provides technical advice and assistance to Headquarters and field elements, but also develops innovative security-related techniques for Departmentwide application.

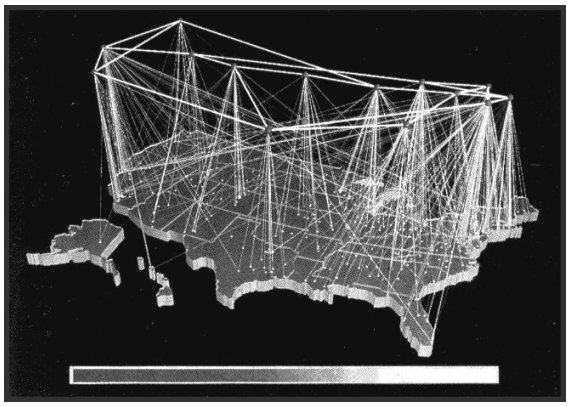
The ISRC's *Internet Presence Assessment Guide* helps sites assess and mitigate the security risk posed by Internet information. It provides a written protocol used to determine if there is sufficient information on a site's Internet web pages to compromise sensitive, proprietary, or classified activities or support adversarial targeting of individuals and programs. This year, the Guide has been dramatically updated with new and enhanced techniques and a methodology for the analysis of collected information. The Guide is now incorporated into the *DOE OPSEC Guide*, published by the DOE Office of Safeguards and Security, and should be available this month.

According to the ISRC's Kenneth Render, the primary author of the *Internet Presence Assessment Guide*, the Internet poses a complex information security risk for the Department. For instance, even if the information presented on a web site is in itself non-sensitive, it may be combined with other Internet sources and become something more threatening.

According to Larry Kinsey, Office of Safeguards and Security, any DOE organization that has a web site should consider using the Internet Presence Assessment Guide. General Habiger has requested that DOE elements perform Internet presence assessments as a security measure. To date, the ISRC has completed more than 10 topical or facility assessments of this genre.

The Guide's methodology focuses on how Internet search engines can be used to discover what information across the Internet is available about a web site or topical area. One of the Guide's techniques describes how to determine what other Internet sites have linked to a particular DOE web site. This can tell a DOE site who is interested in the information being provided, possibly exposing an unknown targeting or collection effort. On the positive side, it could also provide an insight into DOE's customers. For more information, contact Greg Pruitt, DOE OPSEC Program Manager. (Telephone: 301-903-5496 or email: greg.pruitt@hq.doe.gov).

For information about the ISRC, contact Kenneth Render (kenneth.render@pnl.gov).



DOE's vast Internet presence adds complexity to cyber security.

CITIS Initiatives

Four DOE Headquarters Offices are participating in the CIO's Common Information Technology Infrastructure Services (CITIS) pilot projects. The Offices of the DOE Executive Secretariat (OSE/ES), Security and Emergency Operations (SO), Management and Administration (MA), and Chief Financial Officer (CR) are cooperating to create a consistent technical infrastructure with centrally managed operations and services based on enterprise-level standardization.

This approach will increase operating efficiencies and allow the Department to realize economies of scale in the deployment and management of IT. The CITIS initiatives are the next step in realizing the CIO's Infrastructure Vision and Goals, which were implemented in July 1999. CITIS projects commenced in March, 2000. After the first year, the Office of the CIO will work collaboratively to expand the Infrastructure to DOE Federal sites. CITIS initiatives are:

Help Desk Integration
Streamlines IT customer service and user support by consolidating HQ's multiple Help Desks into a centralized Help Desk Service Center.

Tivoli
Builds IT Enterprise Systems Management. Deploys centralized inventory/asset configuration management, remote control, automated software distribution, and global single sign-on.

Groupware/Enterprise E-mail
Creates a single enterprise e-mail and message handling system. Includes unified messaging integration, electronic document and messaging coordination and collaboration, global directory services and certificate integration, and secure messaging.

Consistent Operating Environment (COE)
Covers the office automation suite of products, desktop system configurations, and graphics.

Infrastructure Security
Provides security via Radius/RAS (remote access server) security, PKI (public key infrastructure) integration, and virus protection and scanning for desktop and servers.

Web Solutions
Focuses on e-business solutions via web site design and development, web-based knowledge management, and web-enabled corporate systems.

Web Infrastructure Services
Supports e-business enablement via web hosting, VPN (virtual private network) deployment, and ISP (Internet service provider) service management and administration.

Video Modernization
Deploys desktop video teleconferencing, automates video facilities scheduling, and supports multi-media coordination and collaboration.

Voice Modernization
Enhances communications via computer telephony integration, unified messaging, voice over OC3/ATM link, and voice on IP (Internet Protocol).

Dynamic Host Configuration Protocol
Allows network administrators to centrally manage and automate the assignment of IP addresses.

Planning and Architecture
Builds the technology infrastructure via IT strategy, technology policies and architectural guidelines, Infrastructure/Architecture Frameworks, a technology implementation roadmap, and policy recommendations for the COE.

IT Training
Supports the COE and IT professionals via IT training plans, an interactive multimedia training system, and a master training development roadmap.

Test and Integration Laboratory
Supports the creation of the "model office." Allows testing and evaluation of workstations and servers used for development, testing, and backup.

Service Level Agreements
Define common IT services for: desktop, voice, video, web infrastructure, web solutions, infrastructure security, COE, network, and messaging.

National CIO Role Promoted
Senator Joseph Lieberman (D-Conn.), Representative Jim Turner (D-Texas), and Representative Stephen Horn (R-Calif.) have been expressing interest in creating a National CIO. "I have come to the firm conviction that we do need a Federal Chief Information Officer, " Turner said. "The CIO at the Federal level needs to have direct access to the President." Congress has been considering the role of a National CIO since 1996, and the idea is gaining momentum in the wake of the successful Y2K initiative and in light of National cyber security concerns.

Records Management Conference

The Department of Energy (DOE) Records Management Conference is planned for Monday, June 5 through Thursday, June 8, 2000, at the Hyatt Regency Crown Center, Kansas City, Missouri. The host of this year's conference is the Oak Ridge Operations Office.

Registration information is available at: http://www.it.hr.doe.gov/imcouncil/2000RMCON/00agenpr.htm #About the Conference.

Registrations also can be made by contacting Kelly Flynn (telephone: 301-903-0826 or email: kelly.flynn@hq.doe.gov).